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**(71) Applicant (for all designated States except US): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).**

**(72) Inventors; and**

(75) **Inventors/Applicants (for US only): FRADKIN, Maxim** [IL/FR]; Société Civile SPID, 156 Boulevard Haussmann, F-75008 PARIS (FR). **LAFFARGUE, Franck** [FR/FR];

Société Civile SPID, 156 Boulevard Haussmann, F-75008 PARIS (FR). ROUET, Jean-Michel [FR/FR]; Société Civile SPID, 156 Boulevard Haussmann, F-75008 PARIS (FR).

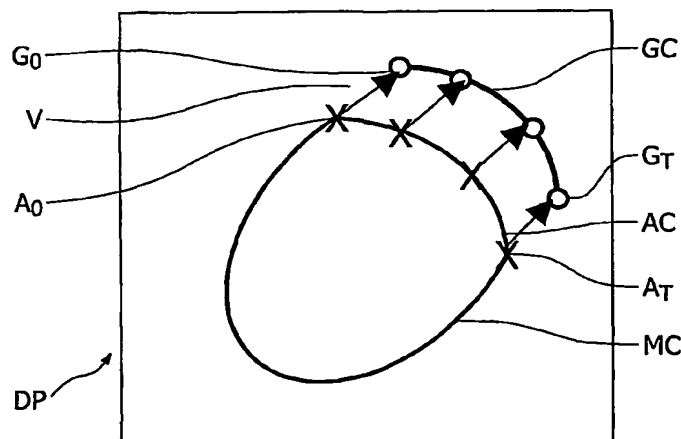
**(74) Agent: VAN OUDHEUSDEN-PERSET, Laure; Société Civile SPID, 156 Boulevard Haussmann, F-75008 Paris (FR).**

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**(54) Title:** THREE-DIMENSIONAL SEGMENTATION USING DEFORMABLE SURFACES



**(57) Abstract:** An image processing system comprising 3D image data processing means (10) of automatic mapping a 3-D Surface Model onto the surface of an object of interest in a 3-D image, for estimating a model-based 3-D segmentation surface, comprising visualizing means (60) and further comprising means of interactive adaptation (20) of the segmentation surface to the actual surface of the object of interest including means of interactive selection (40) of a 2D data plane (DP) that intersects the 3-D segmentation surface along a 2-D Model Curve (MC), said Data Plane having a user-selected orientation with respect to said surface, which is appropriate for the user to visualize a 2-D portion called Aberrant Curve (AC) of said Model Curve to be modified; means of interactive definition of a Guiding Curve (GC) in the 2-D Data Plane; means of interactive adaptation of said Aberrant Curve (AC) to said Guiding Curve (GC); and means of further automatically adapting the 3D segmentation surface within a neighborhood of the interactively adapted Aberrant Curve. The surface Model is favorably a Mesh Model.

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